

South Carolina Department of Health and Environmental Control

Division of Acute Disease Epidemiology

Week Ending December 14, 2013 (MMWR Week 50)

All data are provisional and may change as more reports are received.

MMWR Week 50 at a Glance:

Influenza Activity Level: REGIONAL

Note: Activity level definitions are found on page 14

ILI Activity Status (South Carolina baseline is 2.05%*): The state ILI percentage was .89%. These data reflect reports from 9 (29%) providers.

SC Viral Isolate and RT-PCR Activity: 29 positive specimens were reported. Since 9/29/13, 106 positive specimens have been reported.

Positive Rapid Flu Test Activity: 2206 rapid tests were reported. Since 9/29/13, 7421 positive rapid tests have been reported.

Hospitalizations: 74 lab confirmed hospitalizations were reported. Since 9/29/13, 333 lab confirmed hospitalizations have been reported.

Deaths: No lab confirmed deaths were reported. Since 9/29/13, six lab confirmed deaths have been reported.

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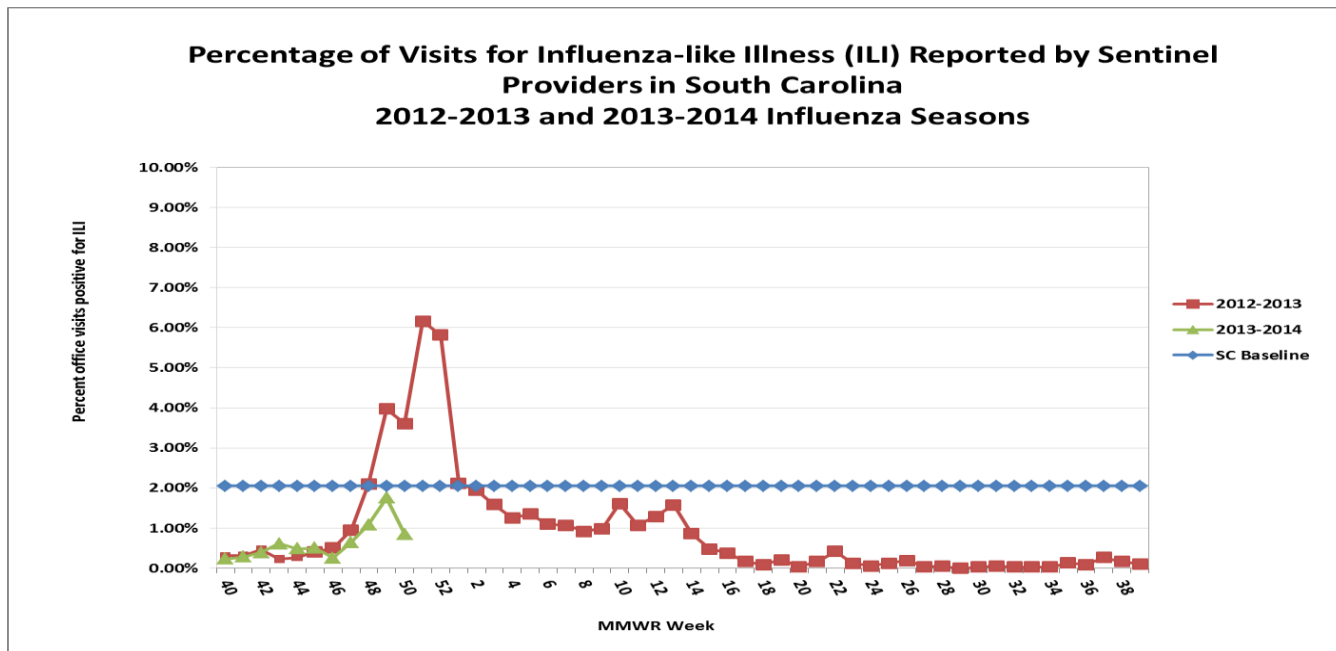
Flu Watch

Summary of ILI Activity, Positive Confirmatory Tests, and Influenza Associated Hospitalizations and Deaths

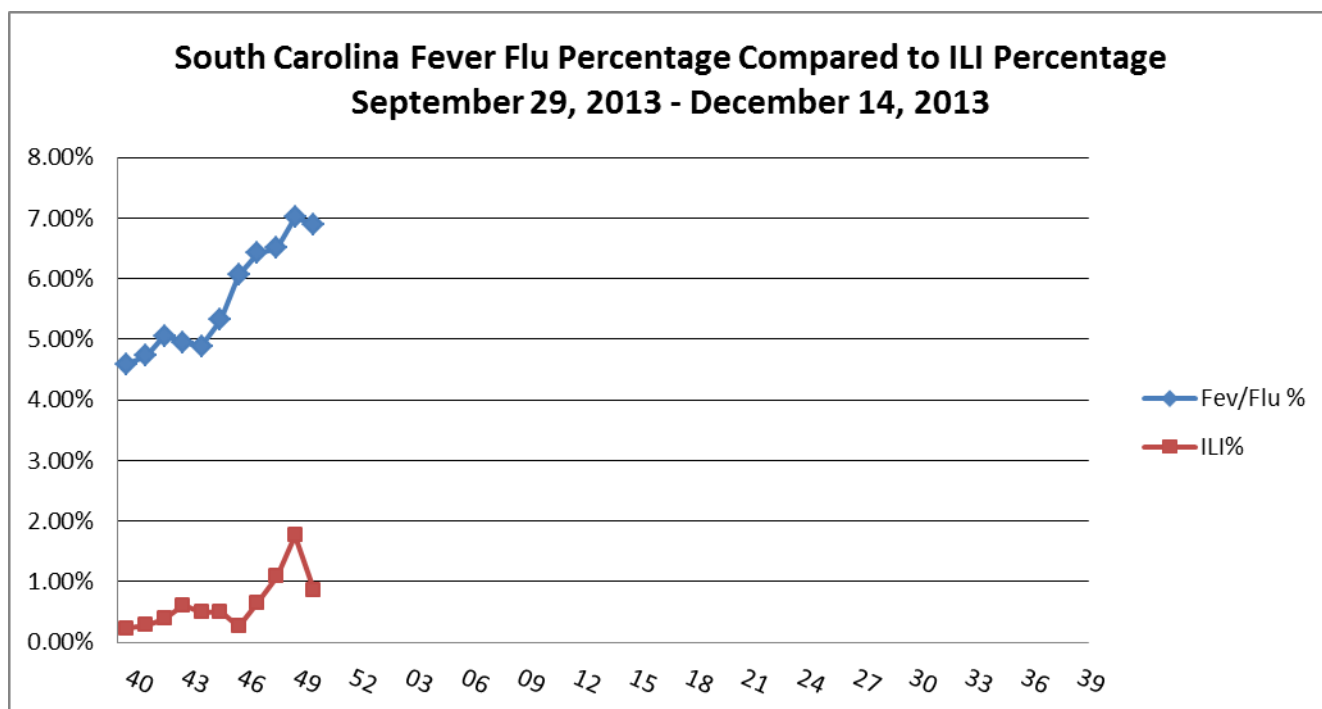
	Current week	Previous week	Change from previous week
Percent of ILI visits reported by ILINet providers	.89%	1.76%	▼ .87%
Percent of fever-flu ER visits reported by hospitals	6.89%	7.03%	▼ .14%
Number of positive confirmatory tests	29	23	▲ 6
Number of lab confirmed flu hospitalizations	74	81	▼ 7
Number of lab confirmed flu deaths	0	1	▼ 1

I. ILINet Influenza-Like Illness Surveillance

During the most recent MMWR week, .85 % of patient visits to SC ILINet providers were due to ILI. This is below the state baseline (2.05%). This ILI percentage compares to 3.61 % this time last year. Reports were received from providers in 10 counties, representing 3 of the 4 regions. The statewide percentage of ER visits with fever-flu syndrome was 6.89%.



*The SC baseline is the mean percentage of patient visits for ILI during non-influenza weeks (weeks when percent of positive lab tests was below 20%) for the previous three seasons plus two standard deviations.



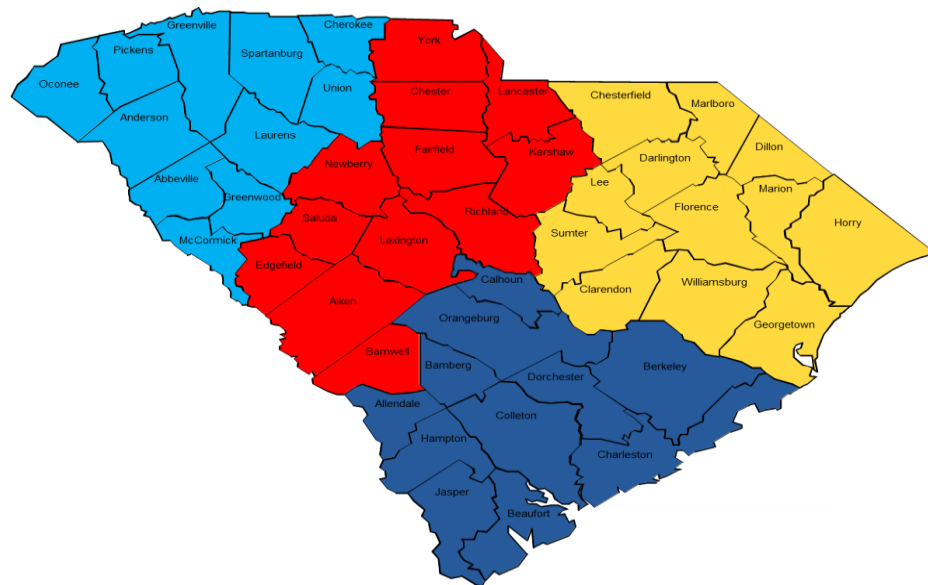
*Only includes hospitals participating in SC syndromic surveillance

Influenza-Like Illness Reported by Sentinel Providers **December 8, 2013 – December 14, 2013**

County	ILI %	County	ILI %
Abbeville	---	Greenwood	NR
Aiken	.29%	Hampton	NR
Allendale	---	Horry	NR
Anderson	NR	Jasper	NR
Bamberg	---	Kershaw	NR
Barnwell	---	Lancaster	---
Beaufort	NR	Laurens	NR
Berkeley	NR	Lee	---
Calhoun	---	Lexington	NR
Charleston	NR	Marion	---
Cherokee	---	Marlboro	---
Chester	---	McCormick	1.0%
Chesterfield	---	Newberry	---
Clarendon	---	Oconee	---
Colleton	---	Orangeburg	---
Darlington	---	Pickens	0%
Dillon	NR	Richland	.43%
Dorchester	NR	Saluda	0%
Edgefield	---	Spartanburg	.86%
Fairfield	---	Sumter	NR
Florence	1.88%	Union	---
Georgetown	NR	Williamsburg	---
Greenville	.41%	York	NR

NR: No reports received

---: No enrolled providers



*County ILI percentages are affected by the number of reporting providers within that county.

II. Virologic Surveillance

*Positive confirmatory influenza test results** *Current MMWR Week (12/8/13 – 12/14/13)*

	BOL	Other clinical labs
Number of specimens tested	16	-
Number of positive specimens	9	20
Influenza A unsubtype		2
Influenza A H1N1	8	18
Influenza A H3N2	1	
Influenza B		
Other		
Includes culture, RT-PCR, DFA, and IFA		

For the current MMWR reporting week, 29 positive specimens were reported.

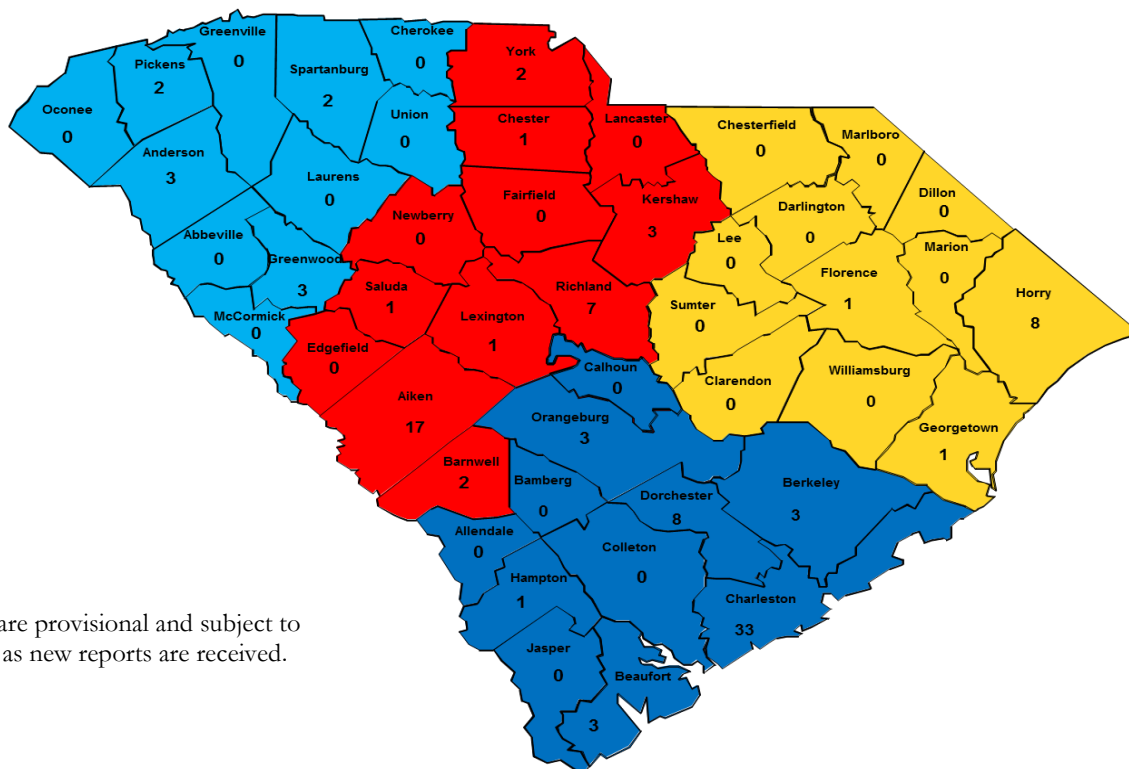
*Positive confirmatory influenza test results** *Cumulative (09/29/13 – 12/14/13)*

	BOL	Other clinical labs
Number of specimens tested	84	NA
Number of positive specimens	30 (35.7%)	76
Influenza A unsubtype		7 (9.2%)
Influenza A H1N1	29 (96.7%)	66 (86.8%)
Influenza A H3N2	1 (3.3)	
Influenza B		3 (3.9%)
Other		
Includes culture, RT-PCR, DFA, and IFA		

Positive Confirmatory Tests by County
Current Week 12/8/13 – 12/14/13

County	Positive Tests	County	Positive Tests	County	Positive Tests
Abbeville		Dillon		Marion	
Aiken	6	Dorchester	1	Marlboro	
Allendale		Edgefield		McCormick	
Anderson	3	Fairfield		Newberry	
Bamberg		Florence	1	Oconee	
Barnwell		Georgetown		Orangeburg	
Beaufort	2	Greenville		Pickens	
Berkeley	2	Greenwood		Richland	1
Calhoun		Hampton		Saluda	1
Charleston	6	Horry	1	Spartanburg	
Cherokee		Jasper		Sumter	
Chester		Kershaw	2	Union	
Chesterfield		Lancaster		Williamsburg	
Clarendon		Laurens		York	2
Colleton		Lee		Unknown	
Darlington		Lexington	1		

Map of Positive Confirmatory Tests by County
Cumulative 09/29/13 – 12/14/13

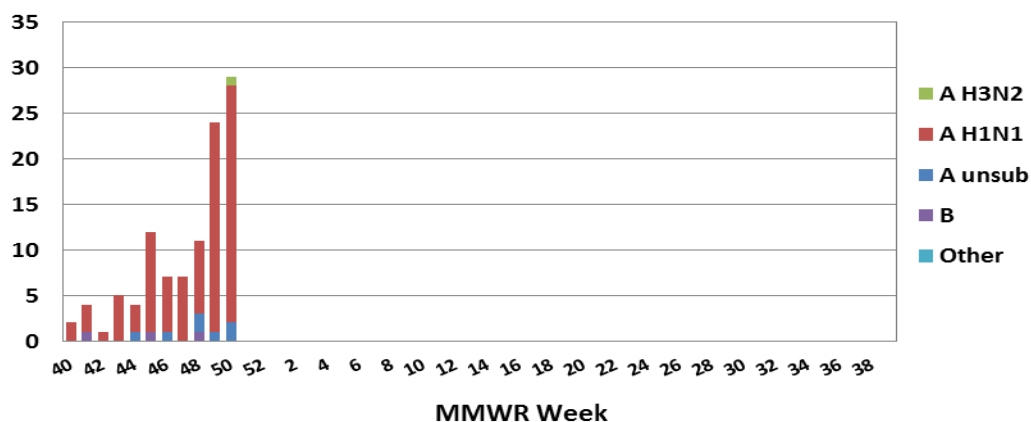


All data are provisional and subject to change as new reports are received.

**Positive Confirmatory Tests by County and Type
Cumulative 9/29/13 - 12/14/13**

	A H1N1	A H3N2	B	A Unsub	Unk		A H1N1	A H3N2	B	A Unsub	Unk
Upstate											
Abbeville						McCormick					
Anderson	3					Oconee					
Cherokee						Pickens	2				
Greenwood	3					Spartanburg	1			1	
Greenville						Union					
Laurens											
Midlands											
Aiken	17					Lancaster					
Barnwell	2					Lexington	1				
Chester	1					Newberry					
Edgefield						Richland	6			1	
Fairfield						Saluda	1				
Kershaw	3					York	2				
Pee Dee											
Chesterfield						Horry	8				
Clarendon						Lee					
Darlington						Marion					
Dillon						Marlboro					
Florence				1		Sumter					
Georgetown	1					Williamsburg					
Low Country											
Allendale						Colleton					
Bamberg						Dorchester	7			1	
Beaufort	2	1	1			Hampton	1				
Berkeley				1		Jasper					
Calhoun						Orangeburg	3				
Charleston	29		2	2							
Unknown County											

**Positive Confirmatory Test Results by MMWR Week
2013-2014 Season**

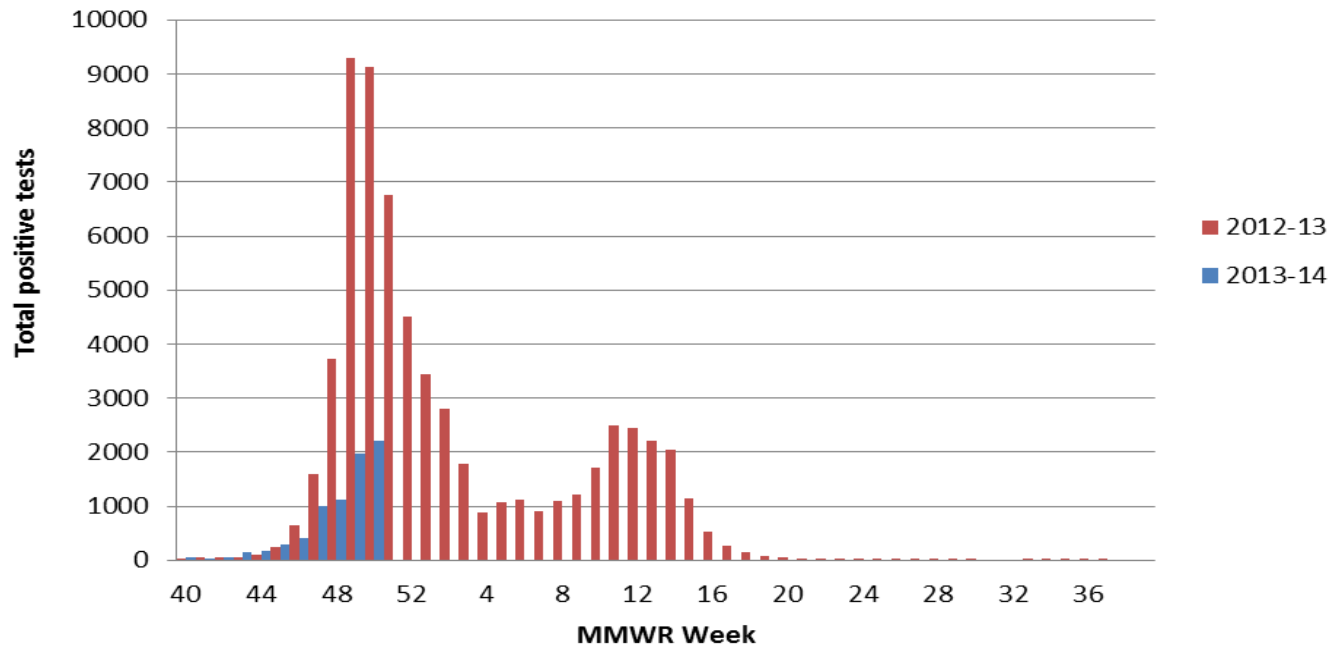


III. Positive Rapid Antigen Tests

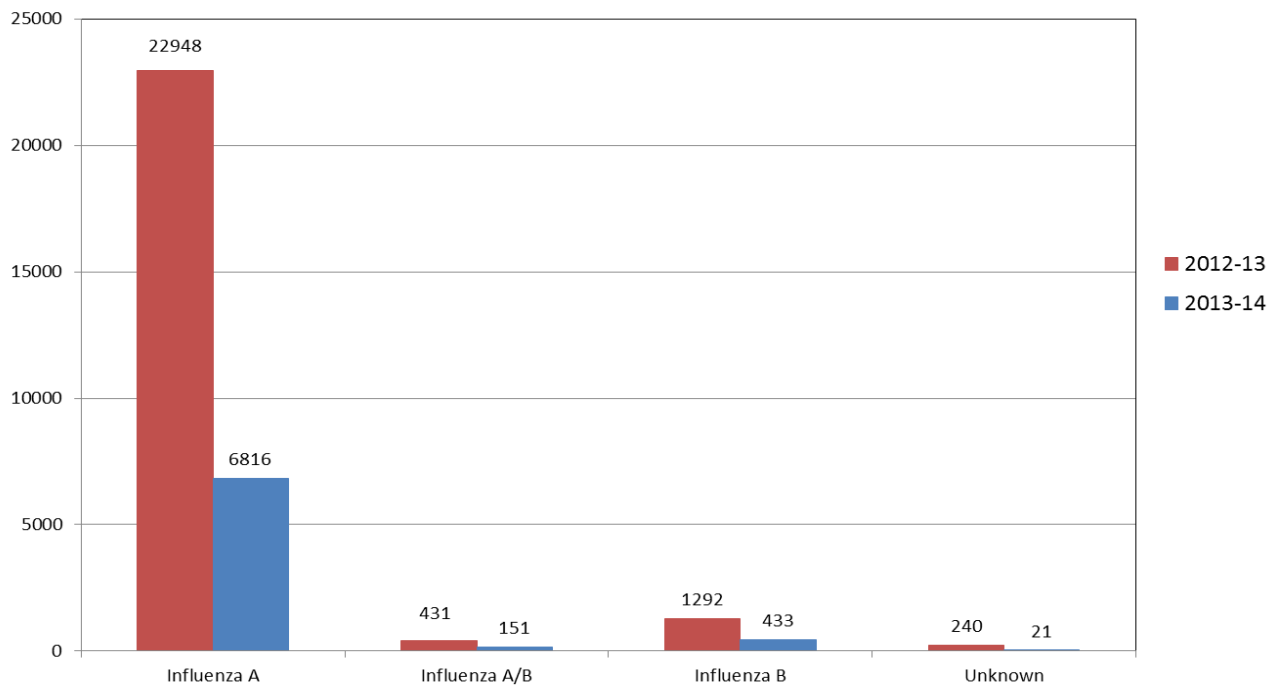
For the current MMWR reporting week, 2206 positive rapid antigen tests were reported. Of these, 2056 were influenza A, 26 were influenza A/B, 3 were unknown, and 121 were influenza B. This compares to 9129 this time last year.

Positive Rapid Flu Tests by County Current Week (12/8/13 – 12/14/13)					
County	Positive Tests	County	Positive Tests	County	Positive Tests
Abbeville	15	Dillon		Lexington	94
Aiken		Dorchester	130	Marion	
Allendale		Edgefield		Marlboro	17
Anderson	39	Fairfield	2	McCormick	
Bamberg		Florence	68	Newberry	16
Barnwell	1	Georgetown	183	Oconee	33
Beaufort	33	Greenville	166	Orangeburg	55
Berkeley	38	Greenwood	50	Pickens	17
Calhoun		Hampton		Richland	175
Charleston	313	Horry	340	Saluda	
Cherokee	15	Jasper	1	Spartanburg	150
Chester		Kershaw	62	Sumter	69
Chesterfield	6	Lancaster	16	Union	1
Clarendon	20	Laurens	4	Williamsburg	9
Colleton	18	Lee		York	3
Darlington	47				

Positive Rapid Tests by MMWR Week 2012-13 vs 2013-14



Positive Rapid Tests by Type 2012-13 vs 2013-14 September 29, 2013 - December 14, 2013



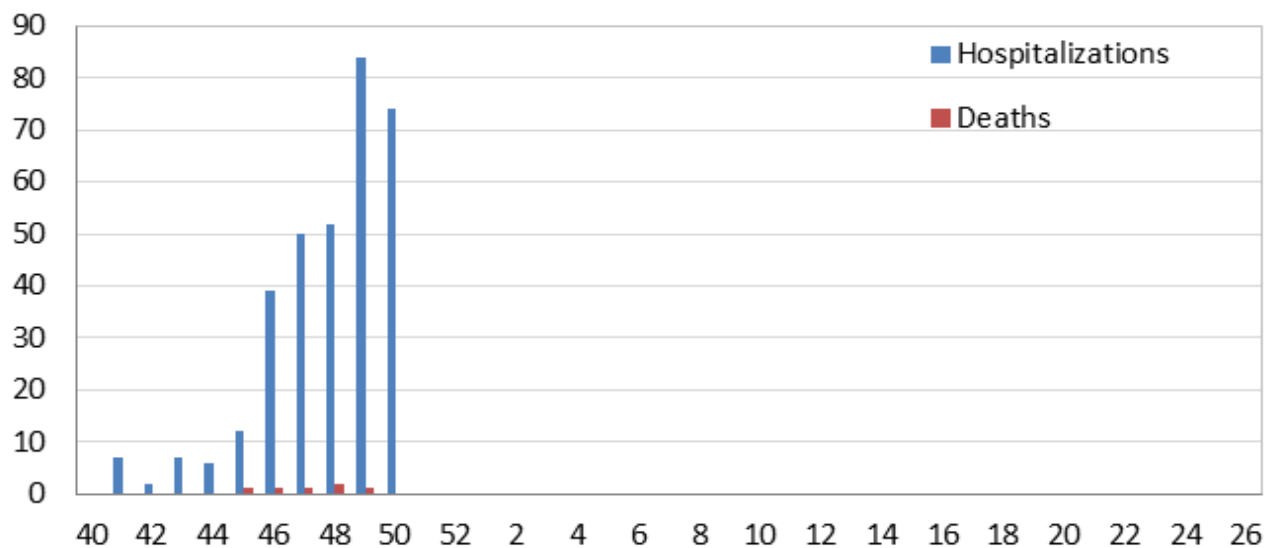
IV. Influenza hospitalizations and deaths

For the current MMWR reporting week, 74 lab confirmed influenza hospitalizations were reported. No lab confirmed influenza deaths were reported.*

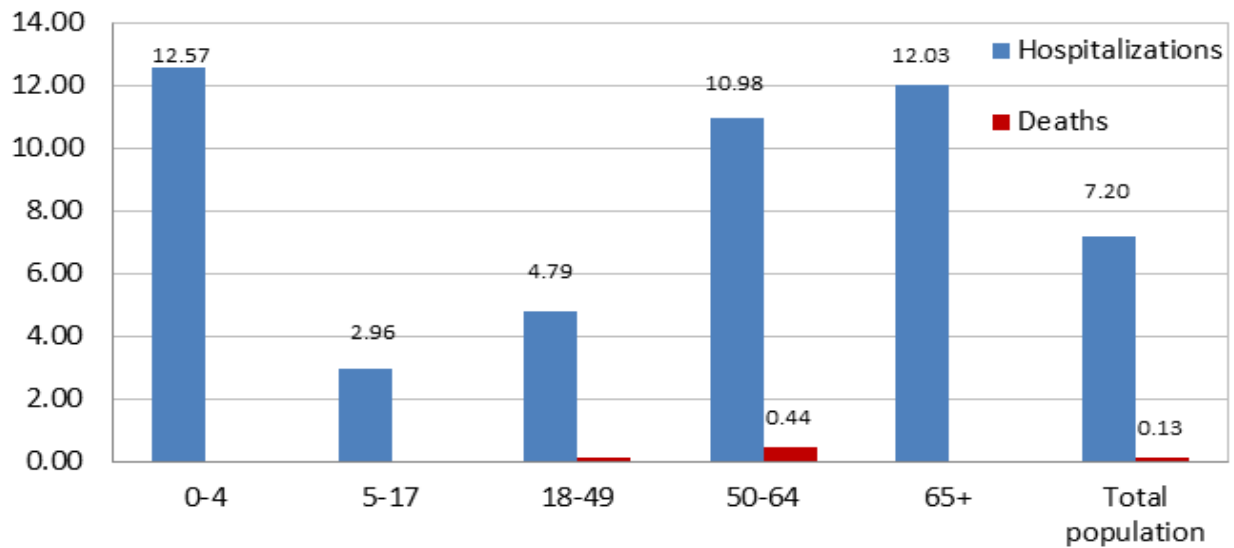
	Total number*	
Number of Reporting Hospitals (Current week)	56	
	<i>Current MMWR Week (12/8/13-12/14/13)</i>	<i>Cumulative (since 09/29/13)</i>
Hospitalizations	74	333
Deaths	0	6

* Lab confirmation for hospitalizations and deaths includes culture, PCR, DFA, IFA, and rapid test.

**Reported Cases of Laboratory Confirmed Influenza
Hospitalizations and Deaths by MMWR week
September 29, 2013 - December 14, 2013**



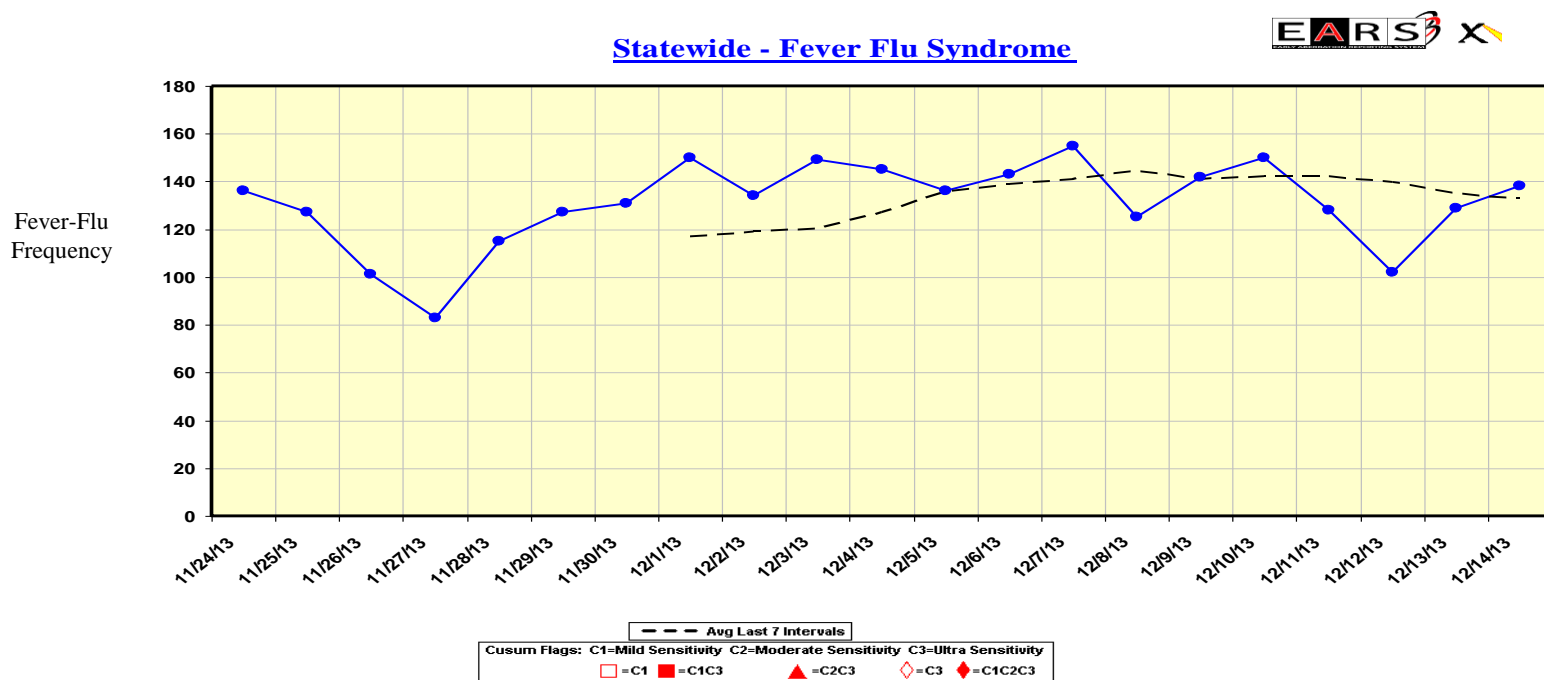
**Laboratory Confirmed Influenza Case rate/100,000
Hospitalizations (n=333) and Deaths (n=6) by age group
September 29, 2013 - December 14, 2013**



**Lab Confirmed Influenza Deaths by County
September 29, 2013 – November 30, 2013**

County	Deaths
Berkeley	1
Charleston	3
Dorchester	1
Richland	1
Total Deaths	6

V. South Carolina Disease Alerting, Reporting & Tracking System (SC-DARTS)



Cumulative Sums Analysis (CUSUM):

C1 = Flags because of sharp rise in counts from 1 day to the next

C2 = Flags because of aberrant, initial, rapid rise in counts and peak in counts

C3 = Flags because of a gradual rise in counts over a short time

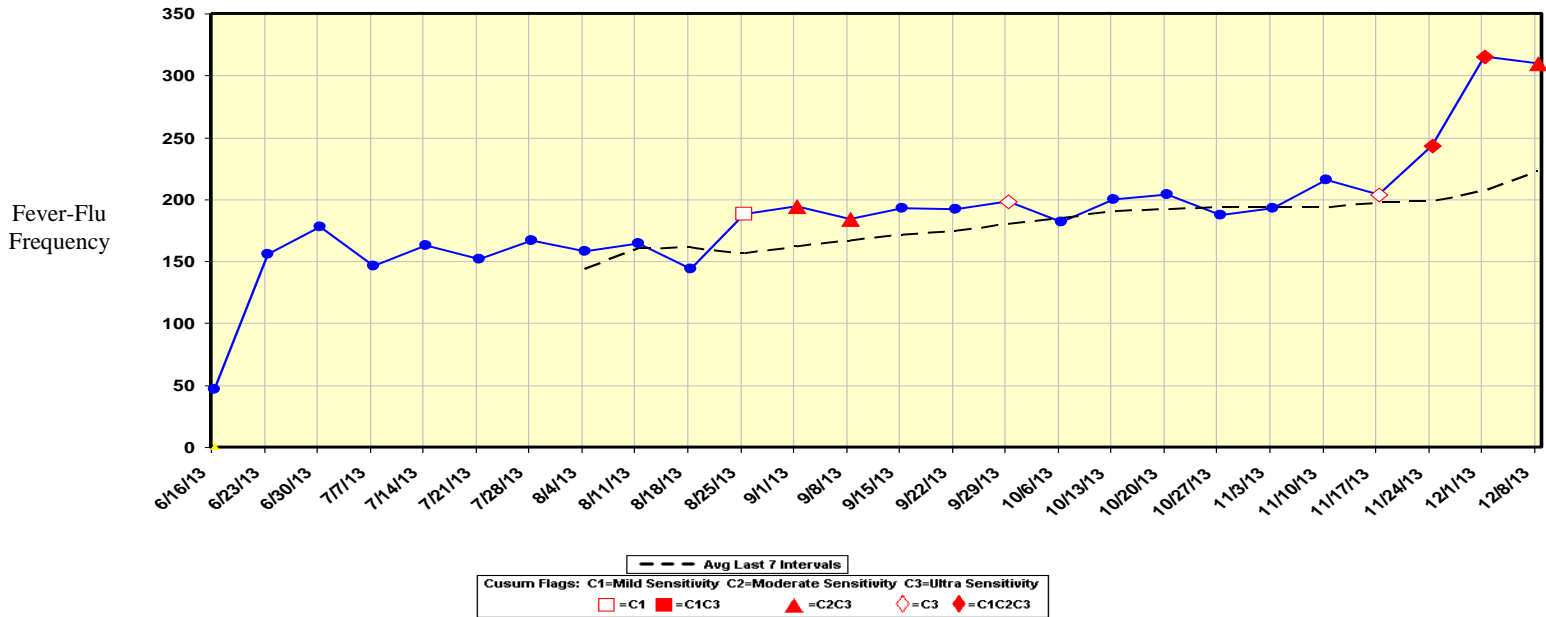
The SC Statewide Fever-Flu Syndrome graph above illustrates the daily counts of hospital emergency department (ED) visits with an Influenza-like Illness (ILI) for the past 21 days. A total of 22 hospital facilities are reporting to the SC-DARTS system. These 22 include: AnMed Health (Upstate Region); Self Regional (Upstate Region); Oconee Medical Center (Upstate Region); Palmetto Health Alliance (Upstate and Midlands Regions); Greenville Hospital System (Upstate Region); Kershaw Health (Midlands Region); McLeod Health (Pee Dee Region); Elgin Urgent Care (Midlands Region); Medical University of South Carolina (Low Country Region); Roper (Low Country Region); St. Francis (Low Country Region); Trident (Low Country Region); Colleton (Low Country Region); Hampton Regional (Low Country Region); and Mount Pleasant (Low Country Region).

Statewide CUSUM Flag Alerts Description:

No flags for the past week.

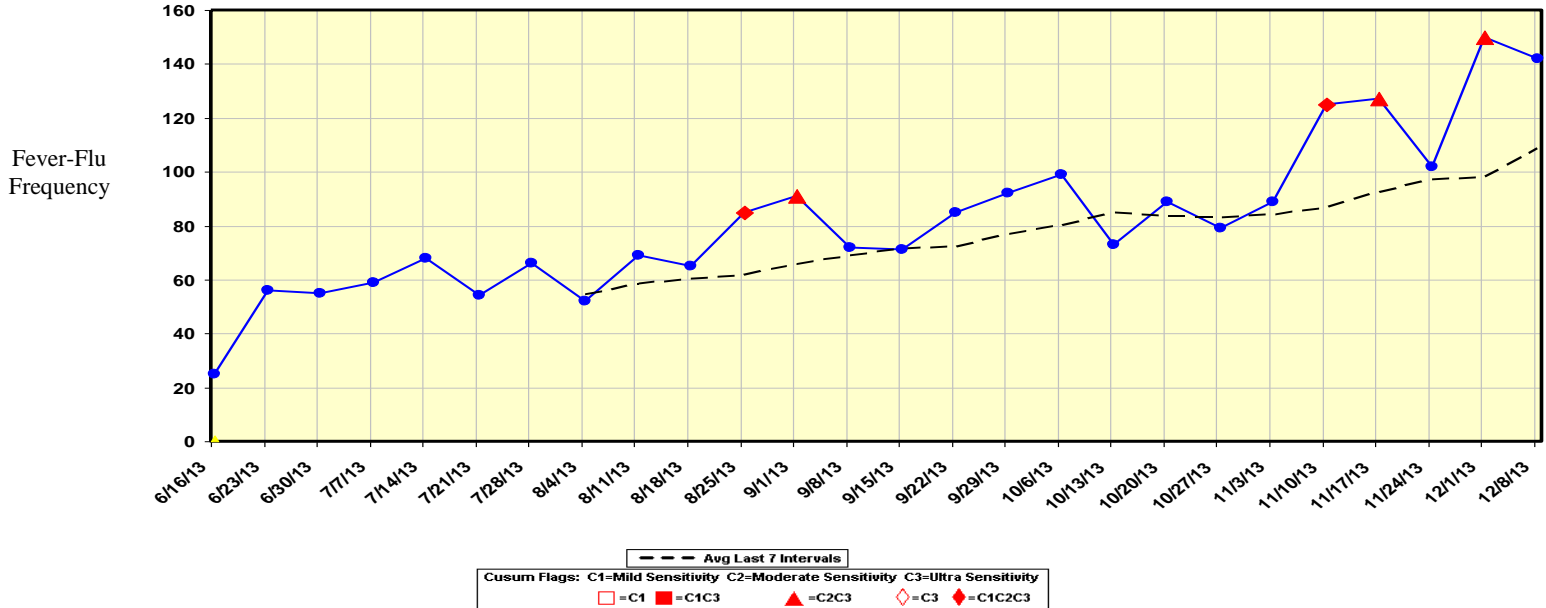
Below are the fever-flu syndrome graphs by Region for the past 180 days (weekly interval).

Upstate Region - Fever Flu Syndrome



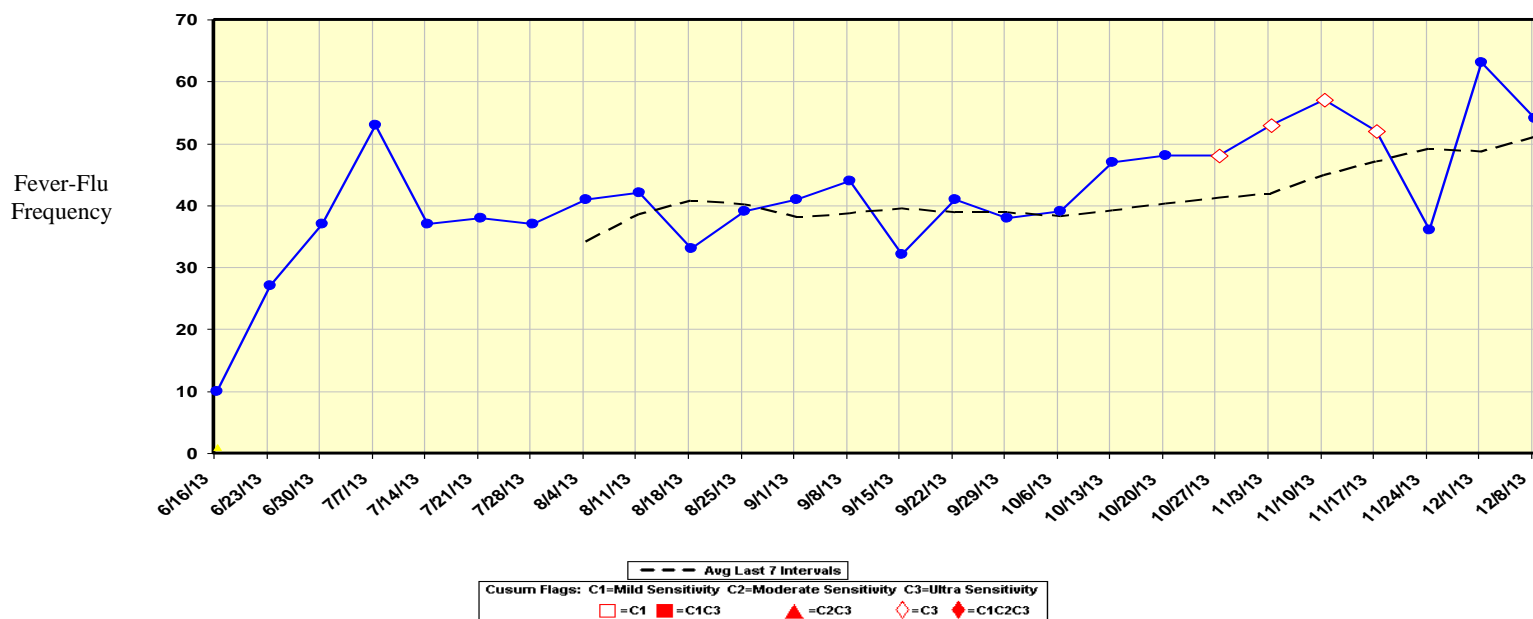
Upstate Region Hospitals (# of Facilities): AnMed Health (3); Self-Regional (1); Oconee Medical Center (1); Greenville Hospital System (4); Palmetto Health Easley (1)

Midlands Region - Fever Flu Syndrome



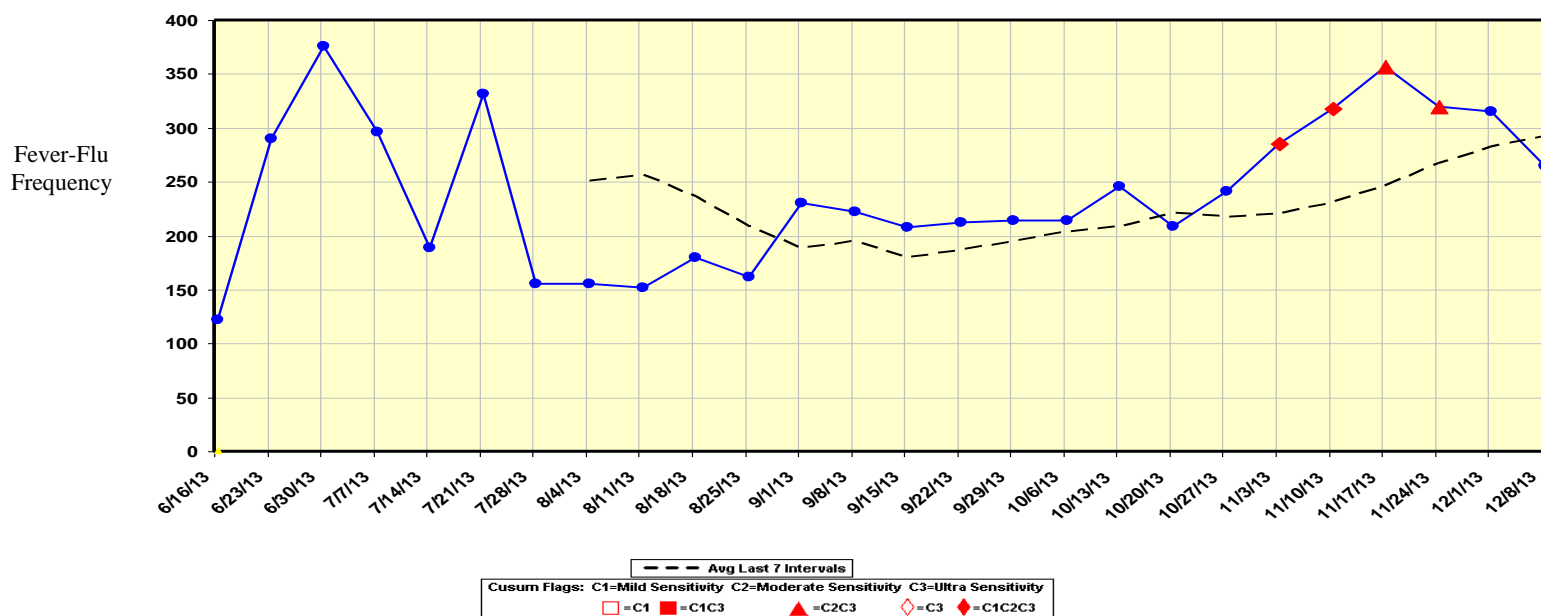
Midlands Region Hospitals (# of Facilities): Palmetto Health Baptist (1); Palmetto Health Richland (1); Kershaw Health (1); Elgin Urgent Care (1)

Pee Dee Region - Fever Flu Syndrome



Pee Dee Region Hospitals (# of Facilities): McLeod Health (1)

Low Country Region - Fever Flu Syndrome



Low Country Region Hospitals (# of Facilities): Medical University of South Carolina (1); Roper (1); St. Francis (1); Trident (1); Hampton Regional (1); Colleton (1); Mount Pleasant (1);

VI. Influenza activity levels

Activity Level	ILI activity/Outbreaks		Laboratory data
No activity	Low	And	No lab confirmed cases
Sporadic	Not increased	And	Isolated lab-confirmed cases
	OR		
	Not increased	And	Lab confirmed outbreak in one institution
Local	Increased ILI in 1 region; ILI activity in other regions is not increased	And	Recent (within the past 3 weeks) lab evidence of influenza in region with increased ILI
	OR		
	2 or more institutional outbreaks (ILI or lab confirmed) in 1 region; ILI activity in other regions is not increased	And	Recent (within the past 3 weeks) lab evidence of influenza in region with the outbreaks; virus activity is no greater than sporadic in other regions
Regional	Increased ILI in 2-3 regions	And	Recent (within the past 3 weeks) lab confirmed influenza in the affected regions
	OR		
	Institutional outbreaks (ILI or lab confirmed) in 2-3 regions	And	Recent (within the past 3 weeks) lab confirmed influenza in the affected regions
Widespread	Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least 4 of the regions	And	Recent (within the past 3 weeks) lab confirmed influenza in the state.

VII. South Carolina Influenza Surveillance Components

South Carolina influenza surveillance consists of mandatory and voluntary reporting systems for year-round influenza surveillance. These networks provide information on influenza virus strain and subtype and influenza disease burden.

Mandatory Reporting

Positive confirmatory test reporting

Positive influenza culture, PCR, DFA, and IFA results from commercial laboratories should be reported to DHEC within 7 days electronically via CHESS or using a DHEC 1129 card.

Positive rapid antigen test reporting

Summary numbers of positive rapid influenza tests and influenza type identified should be sent to the regional health department by fax or email before noon on Monday for the preceding week.

Influenza death reporting

Lab confirmed influenza deaths in adults should be reported to DHEC within 7 days. Lab confirmed influenza deaths in children under age 18 should be reported within 24 hours. These include results from viral culture, PCR, rapid flu tests, DFA, IFA or autopsy results consistent with influenza. Hospitals should report deaths to their regional health department by noon on Monday for the preceding week.

Influenza hospitalizations

DHEC requires weekly submission of laboratory confirmed influenza hospitalizations. Hospitals should report these to their regional health department by noon on Monday for the preceding week.

For additional information about ILINet or to become an ILINet provider, contact the Acute Disease Epidemiology influenza surveillance coordinator at springcb@dhec.sc.gov.

Voluntary Networks

Influenza-Like Illness (ILINet) Sentinel Providers Network

ILINet focuses on the number of patients presenting with influenza-like symptoms in the absence of another known cause. ILI is defined as fever (temperature of $U \geq 100^{\circ}\text{F}$) plus a cough and/or a sore throat in the absence of another known cause. Providers submit weekly reports to the CDC of the total number of patients seen in a week and the subset number of those patients with ILI symptoms by age group.

South Carolina Disease Alerting, Reporting & Tracking System (SC-DARTS)

SC-DARTS is a collaborative network of syndromic surveillance systems within South Carolina. Currently our network contains the following data sources: SC Hospital Emergency Department (ED) chief-complaint data, Poison Control Center call data, Over-the-Counter (OTC) pharmaceutical sales surveillance, and CDC's BioSense Biosurveillance system. The hospital ED syndromic surveillance system classifies ED chief complaint data into appropriate syndrome categories (ex: Respiratory, GI, Fever, etc.). These syndrome categories are then analyzed using the cumulative sum (CUSUM) methodology to detect any significant increases. Syndromic reports are distributed back to the hospital on a daily basis.

To join the SC-DARTS system or for more information, please contact: **Kelly Johnson at 803-898-1588 or johnsok@dhec.sc.gov**.

VIII. National Surveillance MMWR Week 49 (12/1 – 12/7)

During week 49 (December 1-7, 2013), influenza activity continued to increase in the United States.

- **Viral Surveillance:** Of 6,219 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 49, 830 (13.3%) were positive for influenza.
- **Pneumonia and Influenza Mortality:** The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold.
- **Influenza-Associated Pediatric Deaths:** No influenza-associated pediatric deaths were reported.
- **Influenza-associated Hospitalizations:** A cumulative rate for the season of 2.0 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported.
- **Outpatient Illness Surveillance:** The proportion of outpatient visits for influenza-like illness (ILI) was 2.1%, above the national baseline of 2.0%. Three regions reported ILI above region-specific baseline levels. Four states experienced high ILI activity, five states and New York City experienced low ILI activity, 41 states experienced minimal ILI activity and the District of Columbia had insufficient data.
- **Geographic Spread of Influenza:** The geographic spread of influenza in 14 states was reported as regional; 18 states reported local influenza activity; the District of Columbia, Guam, Puerto Rico, and 16 states reported sporadic influenza activity; the U.S. Virgin Islands and two states reported no influenza activity.

A description of surveillance methods is available at: <http://www.cdc.gov/flu/weekly/overview.htm>

